

MARCH 3. 1797.

Report of C. Abercrombie,

In Process,

Stewart *contra* Heron.

W. Beveridge, }
J. Campbell, jun. } W. S. Agents.
H.

REPORT of Charles Abercrombie,

Concerning HAY's MILL, on the Estate of St FORT, together
with the draining some Ground adjacent,

IN THE PROCESS,

STEWART against HERON.

THE remit from the Court of Session, dated the 22d of November 1796, in that process between Robert Stewart, Esq; of St Fort, and William Heron in lands of Cruivie, the substance of said remit being as follows:—

‘ To examine the mill-lead in question, and to report his opinion as to the sufficiency thereof, whether it was in the beginning, or is now, properly constructed? Whether any, or what prejudice there arises to the proprietor or tenant of the mill and lead, from the late operations of the tenant of Cruivie, for the purpose of draining his ground? and to suggest in what manner the lead on the one hand, and the drains on the other, may be constructed, by puddling or otherwise, so as to prevent damage to one another.’

In obedience to the above order, I went into that country, and on the 15th instant I examined the mill-lead and drains in question, the situation and extent of which seems sufficiently pointed out by plans and sketches annexed to the process: however I shall here

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give

give such a general description of their situation, so as to lead the attention to what I have to say on the subject. The situation of the mill-lead, from No. 11. to No. 44. as marked on Brown's Plan, is for the greater part upon a soft dry swamp; but from No. 11. to Hay's mill, the lead is made upon the solid ground, immediately on the outside of the swamp, and bottom of the higher grounds, that part extending through the swamp, which, by the above mentioned Plan, exceeds a mile in length. On the whole length of this towards the north, and opposite to the lands of Cruivie, is still a complete swamp, nearly in its original state, forming part of the lands of St Fort and Kinnear, the surface of this ground and swamp being nearly level with the water in the surface of the lead when full, and in time of flood in the lead considerably overflowed; so that the lead in its present situation totally prevents the draining of this ground, for the accomplishment of which, the complete demolition of the mill would be necessary. On the opposite side, being the lands of Cruivie, there was found the possibility of draining, by bringing up the level from the tail-lead of Hay's mill, which level amounts to about four feet; so that there was this four feet to operate upon draining that part of the swamp lying southward of the mill-lead. The nature of the improvements here made, points out that this draining must have commenced a considerable number of years ago; and doubtless, when in its original, as a complete swamp all over, the lead was kept in a passage through it, by means of cleaning, and cutting down the water-plants and weeds common in such marshy ground, and unquestionably answered all the purposes of an aqueduct to convey the water to Hay's mill. But when the method of draining was carried into execution on these low grounds of Cruivie, the natural consequence was, that the low ground subsided in proportion to the extent of draining and depth of the bottom. From the levels I took on the 15th instant, I found the drained ground at the second cross ditch from six to ten inches below the surface of water in the lead, when full to its proper height; at the third cross ditch, from thirteen to twenty inches below the surface of the lead; and at the fourth cross ditch, from fourteen to sixteen and a half inches below said surface, the depth of the cross ditch here being twenty-nine inches below said level; so that the bottom of this fourth cross ditch is three feet nine inches below the level of the surface of the water in the lead when
full

full nearly to the top of the bank. The whole way from this ditch there is a back drain about thirteen inches deep, carried up nearly to the intake; the obvious use of which was, to intersect any water arising from the swamps and lead, from communicating with the drained ground. Between this back drain and the lead, the space is formed into a bank, but little higher than the surface of the water in the lead, being from seven to fifteen feet broad, or thereby. At a small distance eastward from the head of the fourth cross ditch, there was a breach quite through the bank, so that all the water commonly used to work the mill was passing quite off, and returning by a channel behind the bank parallel to the lead, entering the head of the cross ditch, and so passing it to the main drain; so that no part of the stream was going to the mill. I could at same time observe, that the lead bank was not quite water tight, but that there was a small run into the cross ditches; but the water in the lead not being at the proper height at the time of my observations, owing to the breach, I could not determine the quantity. This is, I think, nearly the situation of these works as they stand at present. It appears to me obvious, that now the lands of Cruivie being now so much drained below the level of the lead, that it will of course be exceeding difficult to keep the bank of the lead so as not to be broken down in time of flood; but I shall here point out such methods as I have several times taken to prevent breaches in such like works, where I have been engaged. As I observed above, the greater part of this lead being upon the surface of deep swamps. I think it next to impossible to make a sufficient puddle in the bank of the lead, so as to prevent leakage from the lead into the back-drain. However, the only thing I see can be done with the lead and bank, in its present situation and circumstances, is to encrease the breadth of the bank, and make it at least a foot higher; then sow it with grass-seed, and plant it all over with the basket-willow; and at the intake build a sufficient waste, in order to discharge the surplus water in time of flood; which will then be carried off by the main drain. No sluice, nor side-sluice, built here, can answer, being greatly too far off from the mill to be looked after; for if a flood were to come on in the night, the whole bank might be in a manner ruined before morning that the mill-matter got the distance to open such a sluice. But after all this were performed, I am very apprehensive, from the circumstances of the swampy bottom,

bottom, that it will be subjected to continual repairs, and of course prove the means of a constant difference and misunderstanding between the parties.

Therefore, from carefully considering all these circumstances, I here beg leave to propose another method, the success of which I can risk my reputation to answer in the fullest manner, if properly carried on; the effect of which will be, to drain not only these low grounds of Cruvie, but of all the swamps to the north of the present lead, belonging to St Fort and Kinnear, and at same time preserve the water and fall of Hay's mill, a subject of very considerable importance to an estate where only one can possibly be obtained, there being no other fall of water belonging to it. The manner I propose to perform this is as follows:

In order fully to understand me on this subject, I have made on Brown's plan a sketch of the swamp to the north of the lead; therefore I propose to begin at N^o 11, where the present lead is, on the solid ground, and from that cut out a new channel for the lead quite round the morasses, as dotted line, letter P; this channel will fall into a large ditch, cut on the lands of Kinnear, which will only require to be brought to the necessary wideness, and cleaned at bottom, as it is already in the proper situation for answering all the purposes of draining the low ground of Kinnear. This new channel, I propose to join the present one, a little above the intake, and there receive the whole water in the stream upon the same level. The bank of this new channel, I propose to be made so high, that the flood cannot come over it; that is, perhaps three feet or thereby; and at Hay's mill, there must be built a proper waster, in order to regulate the water in time of flood; the obvious consequence of adopting this measure will be abandoning the present lead through the swamp; so that all parties concerned can at once bring up the above mentioned four feet of level, and consequently drain the whole low ground on each side. I am well aware, that this scheme can only take place with consent of parties; and as I see no other to answer all effectually, I flatter myself, that they will not lose sight of their own interest so far, as to neglect carrying it into immediate effect; especially as the whole can be executed much cheaper than banking and building a waste on the present lead; for it may be depended upon, that it will not only tend greatly to the advantage of all concerned, but be the means of preventing all difference hereafter.

CH^s ABERCROMBY.

Glasgow, 23d February 1797.

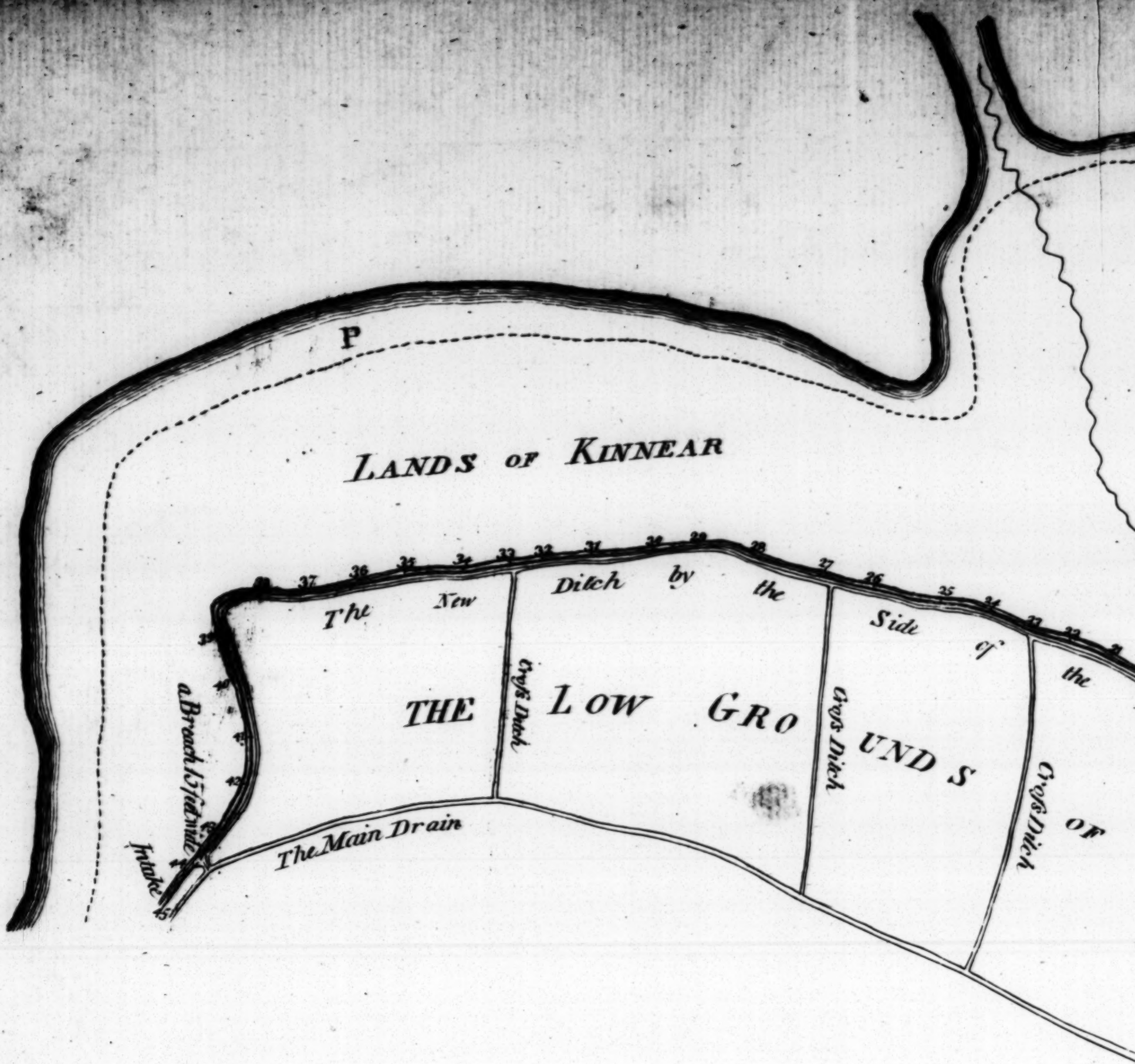
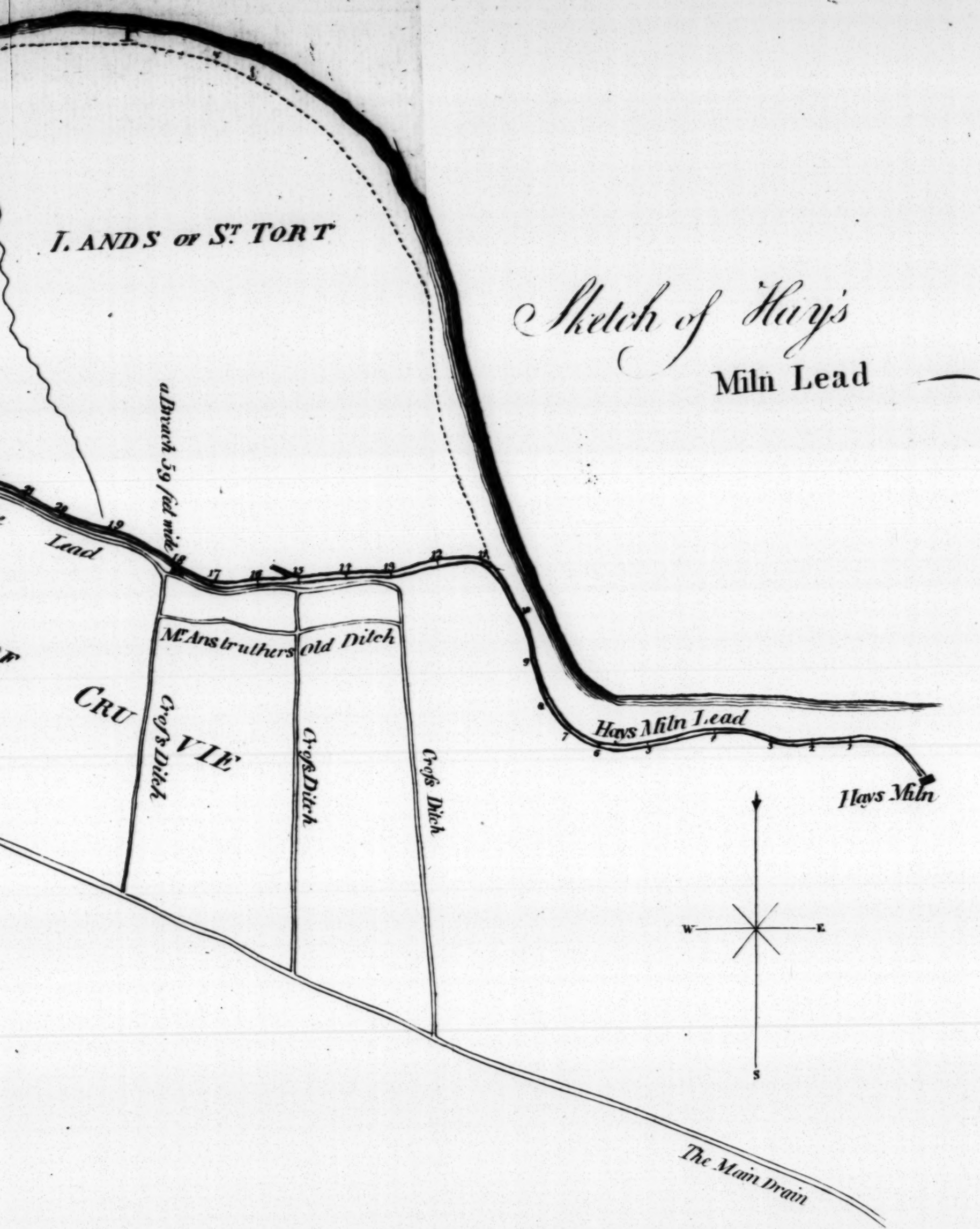


TABLE.

No	Depth of Water, the Sluice shut.		Dist. of the New Ditch fr. the Lead.	Dist. of Mr ANSTROTHER'S Old Ditch from the New Ditch.	Dist. from HAY'S Mill.
	Feet.	Inches.	Feet.	Yards.	Yards.
1	2	6			50
2	2	5			99
3	2	3			149
4	2	3			198
5	2	2			248
6	2	3			297
7	1	10			346
8	2	2			396
9	2	3			445
10	2	2			495
11	1	7			545
12	1	8			594
13	1	7	15	25	644
14	2	0	14	19	693
15	1	11	14	34	743
16	2	0	12	30	792
17	2	0	13	25	842
18	2	3	15	37	891
19	2	2	12		941
20	1	8	14		990
21	1	6	15		1040
22	1	4	12		1089
23	1	1	9		1139
24	1	6	9		1188
25	1	8	9		1238
26	1	8	7		1287
27	1	9	7		1337
28	1	8	7		1386
29	1	10	7		1426



THE Lead lies nearly upon a dead level from the Mill-sluice to the In-take, which is more than one mile and a quarter; the declivity being no more than to let the water move; and it is deeper by six inches at the In-take than at the Sluice. The ground upon the south side of the lead, where it is drained, has consequently subsided, and fallen a little below the surface of the other grounds that are yet under water.

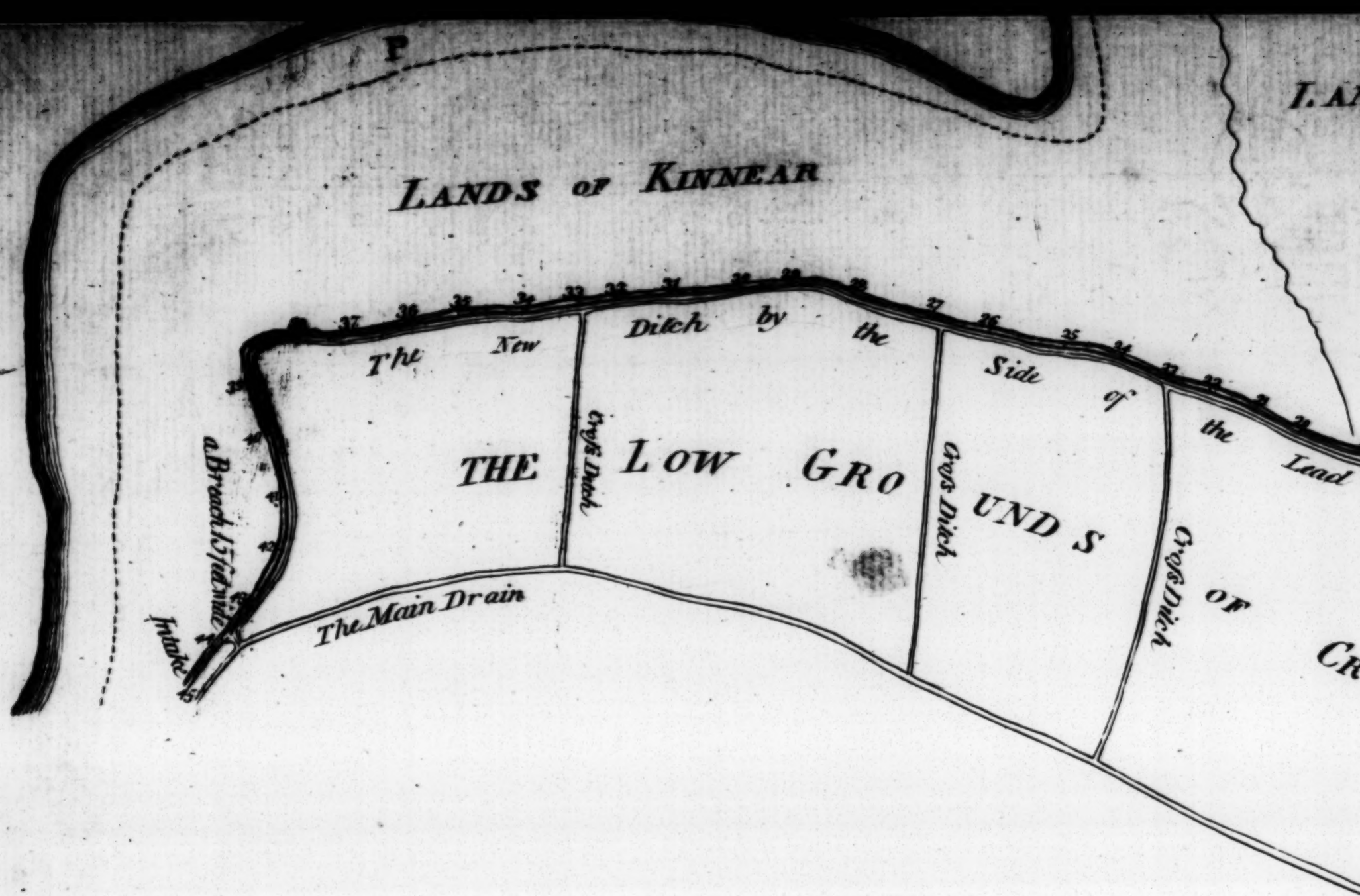
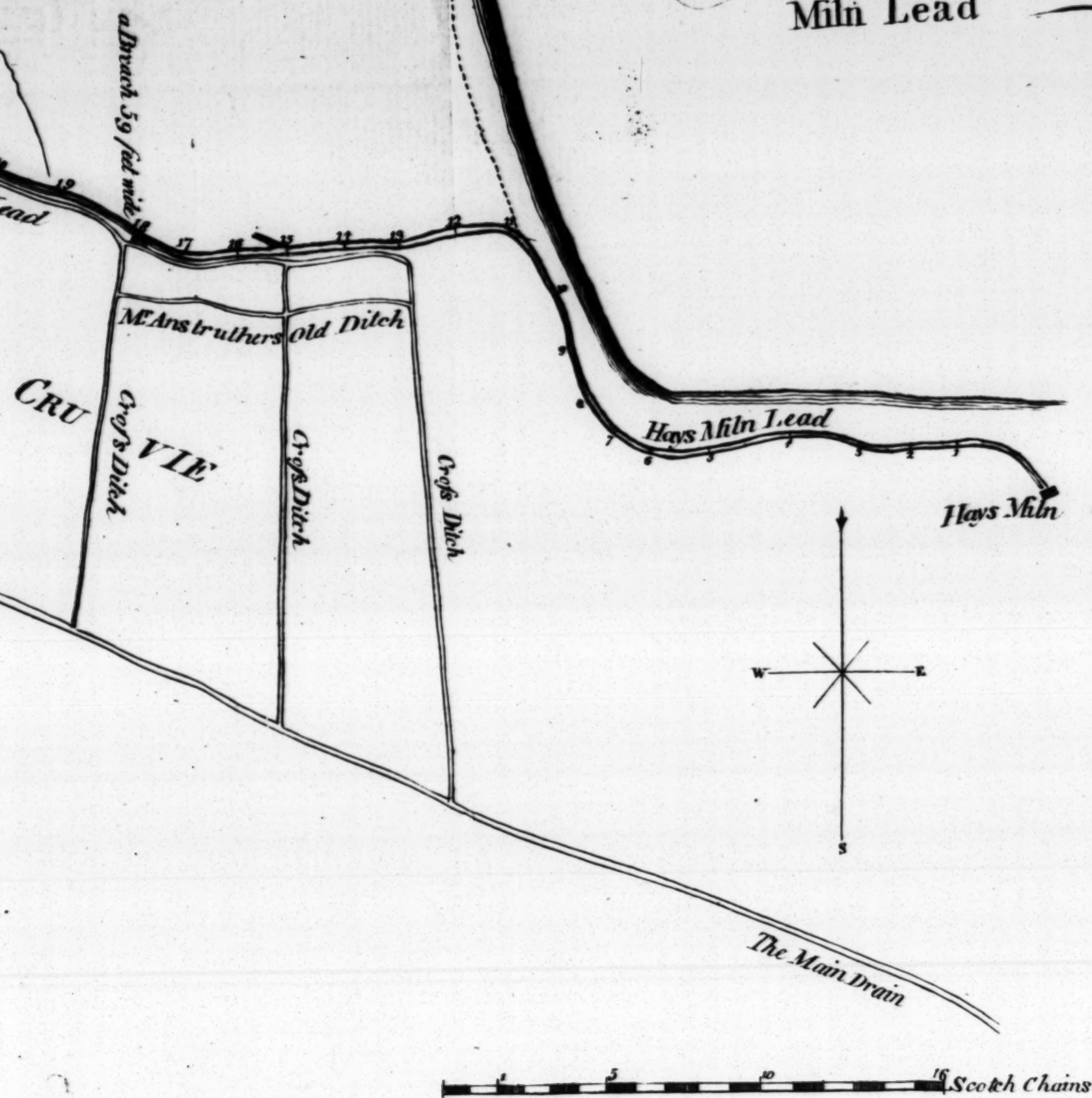


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27	1	9	7		1337
28	1	8	7		1386
29	1	10	7		1436
30	1	10	7		1485
31	2	0	7		1535
32	2	2			1584
33	2	6	7		1634
34	2	3	7		1683
35	2	3	7		1733
36	2	3	7		1782
37	2	2	7		1832
38	2	4	7		1881
39	2	2	7		1931
40	3	0	7		1980
41	2	6	7		2030
42	2	0	7		2079
43	2	3	9		2129
44	2	6		8	2178
45	3	0		10	2228

Sketch of Hays Mlin Lead



THE Lead lies nearly upon a dead level from the Mill-fluice to the In-take, which is more than one mile and a quarter; the declivity being no more than to let the water move; and it is deeper by six inches at the In-take than at the Sluice. The ground upon the south side of the lead, where it is drained, has consequently subsided, and fallen a little below the surface of the other grounds that are yet under water.

Sept. 13. 1792.

ALEX. BROWN.